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Vice President and
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Attention: Sheldon Stuchell
Document Control Desk
U. S. Nuclear Regulatory Commission
11555 Rockville Pike
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Subject: Additional Clarification with Respect to EPRI Report; *Nondestructive Evaluation: Probabilistic Risk Assessment Technical Adequacy Guidance for Risk-informed Inservice Inspection Programs. EPRI, Palo Alto, CA: 2010. 1021467*

Ref. EPRI Project Number 669

On July 8, 2010 EPRI submitted EPRI Report "Nondestructive Evaluation: Probabilistic Risk Assessment Technical Adequacy Guidance for Risk-informed Inservice Inspection Programs." EPRI, Palo Alto, CA: 2010. 1021467. This report is an update to EPRI Report 1018427, which was previously submitted to NRC, and incorporated responses developed to Requests for Additional Information (RAIs) issued by the staff.

This report was transmitted as a means of exchanging information with the NRC for the purposes of supporting generic regulatory improvements with respect to application of risk-informed technology to inservice inspection (RI-ISI) programs.

During a meeting with NRC staff on February 24, 2011, NRC staff requested additional clarification. The attached provides this requested information.

If you have any questions on this subject, please contact Patrick O'Regan (poregan@epri.com, 508-497-5045).

Sincerely,

NWM/po/tw

Enclosure

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RAI #1 NRC Slide # 2 – Reword footnote 1 of Table 2-1

Response The current wording will be replaced with the wording below:

1. For a supporting requirement to be considered met, all relevant peer review findings shall have been addressed and as necessary applicable changes made to PRA models and methods. As the capability category assignment for each supporting requirement relates to the technical aspects of the plant PRA, peer review findings and/or gaps related to documentation that do not impact the RI-PSI / RI-ISI results would allow the capability category to still be considered met. A documented basis for this conclusion should be prepared and available. This documented basis could, for example, include the use of supplemental analyses, comparison to similar plants and/or review of the impact of similar review findings on RI-PSI / RI-ISI results to confirm the RI-PSI / RI-ISI results would not be significantly impacted.

RAI #2 NRC Slide # 3 – Additional information is required with respect to Seismic Events (e.g. NUREG-1903 *"Seismic Considerations for the Transition Break Size,"* and previous NDE results)

Response In response to this RAI, a review of NUREG-1903 and NUREG-1839 has been conducted and this review indicates that the conclusions drawn in the EPRI Topical Report (i.e. 1021467) are consistent with these NUREGs and this supports the conclusion that the seismic considerations contained in Regulatory Guide 1.200 revision 2 will not impact the decision making process or criteria reached by implementing a RI-PSI / RI-ISI program.

The issue of seismic response of nuclear piping systems has been studied domestically and internationally over many years from various perspectives such as establishing design rules, developing and validating analytical models, assessing the behavior of flawed and unflawed piping, leak-versus-break behavior, and failure modes under various types of loadings. These studies, which included testing, analysis, evaluation of piping system performance in earthquakes (eastern, central, and western US as well as international experience) and probabilistic risk assessment (PRA), include the following examples:

- "Seismic Analysis of Piping," NUREG/CR-5361 [Jaquay, 1998]
- "International Piping Integrity Research Group (IPIRG) Program, Final Report"
- NUREG/CR-6233, Vol. 4 [Wilkowski et al., 1997]
- "Review of Seismic Response Data for Piping" [Slagis, 1995]
- "Methodology for Developing Seismic Fragilities" [Reed and Kennedy, 1994]
- "Individual Plant Examination of External Events (IPEEE) Seismic Insights" [EPRI, 2000]
- "Survey of Strong Motion Earthquake Effects on Thermal Power Plants in California with Emphasis on Piping Systems," Main Report, Vol. 1, NUREG/CR-6239 [Stevenson, 1995]
- "Fatigue Strength for Pipes with Allowable Flaws and Design Fatigue Curve," International Journal Of Pressure Vessels and Piping [Hasegawa, 2002]
- "Analysis of JNES Seismic Tests on Degraded Piping," NUREG/CR-7015, July 2010.
- "Test Programs for Degraded Core Shroud and PLR System Piping (Seismic Test Results and Discussion on JSME Rules Application)," K. Suzuki and H. Kawauchi, 2008 ASME PVP Conference, July 2008.
- "Load Bearing Capacity of a Degraded Piping System under Simulated Earthquake Loads and Operating Condition," H. Diem, et al, SMIRT10, 1989.

Insights from the above studies conclude that the past seismic design of piping systems is thought to be conservative with ample margins. The actual earthquake experience of non-nuclear power plant piping (eastern, central and western US and international experience), tests, and PRA studies also supports this position for both unflawed and flawed piping. Examples in the above studies include testing of flawed piping up to 6 – 8 times the SSE level earthquake with only limited leakage occurring (SMIRT10).

It is also noted that many of the above studies took no credit for ISI. Thus, application of RI-ISI would make the conclusions drawn by many of the above studies additionally conservative. And, finally, the RI-ISI methodologies contain guidance that requires that plant specific service experience (e.g. accepted or repaired flaws/indications) be considered in identifying which locations are selected for inspection (e.g. section 3.6.5 of TR-112657 and paragraph 4(f) of N716)).

In summary, based upon a review of the studies cited above (e.g. inputs, assumptions, analyses, referenced reports/studies, supporting programs) and the inclusion of plant-specific service experience (e.g. accepted or repaired flaws/indications) in the RI-ISI element selection process, the position put forth in EPRI Topical Report 1021467 relative to Regulatory Guide 1.200 revision 2, that quantification of other hazards groups (e.g. seismic events) will not change the conclusions derived from the RI-ISI process remains valid.

RAI #3 Supporting Requirement AS-A9 requires additional input

Response AS-A9 addresses the use of thermal hydraulic analyses in the development of accident sequence modeling of plant and operator response to initiating events. Capability Category I recognizes that generic analyses by vendors for a class of plants (e.g., BWR2) can be used where as Capability Category II requires the use of realistic, applicable analyses from similar plants. Note that even Capability Category II does not require "plant-specific" analyses (see Capability Category III) and the difference between Capability Category I and II is not significant because generic analyses of a class of plants would also be from similar plants. Capability Category I does not require "realistic" and sometimes analyses for a class of plant is conservative so as to bound the group of similar plants. As noted in Regulatory Guide 1.200, supporting requirement SC-B4 is also relevant to this SR. Supporting requirement SC-B4, which spans all three capability categories says:

> *USE analysis models and computer codes that have sufficient capability to model the conditions of interest in the determination of success criteria for CDF, and that provide results representative of the plant. A qualitative evaluation of relevant application codes, models, or analyses that has been used for a similar class of plant (e.g., Owner's Group generic studies) may be used. USE computer codes and models only within known limits of applicability.*

The use of potentially conservative analyses developed for a class of plants is generally not significant to the accident sequence development and would have an insignificant impact to RI-PSI / RI-ISI applications. Finally, applying conservatisms for this SR will at worst only add inspections to the RI-PSI / RI-ISI population.

RAI #4 Supporting Requirement SC-B2 requires additional input

Response SC-B2 addresses the use of expert judgment where Capability Category I has no restrictions regarding the use of expert judgment and Capability Category II limits its use to situations where there is a lack of available information. Capability Category I also requires that SC-C2 be met with regard to documentation and the need to provide a basis for when expert judgment is used, if it is used at all. It is therefore very difficult to conceive of a significant misuse of this supporting requirement at Capability Category I without peer reviewers labeling it as "not met." [Note: there are other SRs that require that appropriate success criteria be applicable to the plant (SC-B1), applicable to the event being analyzed (SC-B3), analysis provide results representative of the plant (SC-B4) and comparisons with other plants to check reasonableness, etc. (SC-B5).]

RAI #5 Supporting Requirement SY-B1 requires additional input

Response **Category I**, requires "*MODEL intrasystem common cause failures when supported by generic or plant-specific data*" or "*SHOW that they do not impact the results*". In this system SR, "no impact to the results" refers to the specific system unavailability results, and therefore, this conclusion would not change if the system's importance increases due to the flooding impacts on the other systems. In other words, if intra-system common cause is evaluated not to be an important contributor to the system unavailability (for example, it contributes less than 1% to the system unavailability), this conclusion is not likely to be affected by flooding events. Based on this, it can be concluded that "Any minor quantitative impact is not expected to affect risk-significance due to order of magnitude absolute ranking and grouping approach", and we propose that the conclusion in EPRI TR 1021467, for the EPRI traditional and streamline methodologies (i.e. CCI), stays unchanged.

RAI #6 Supporting Requirement SY-B11 requires additional input

Response **Category I**, requires "*IDENTIFY those systems that are required for initiation and actuation of a system. MODEL them unless a justification is provided (e.g., the initiation and actuation system can be argued to be highly reliable and is only used for that system, so that there are no intersystem dependencies arising from failure of the system).*" Similarly to SY-B1 above, if a justification is provided to exclude actuation of the system from the model, it will have to show that the actuation has no impact on the specific system unavailability results and therefore it will have no significant impact on the overall results. Based on this, it can be concluded that "Any minor quantitative impact is not expected to affect risk-significance due to order of magnitude absolute ranking and grouping approach", and we propose that the conclusion in EPRI TR 1021467, for the EPRI traditional and streamline methodologies (i.e.CCI), stays unchanged.

RAI #7 NRC Slide # 13 – Rewording of several entries in the Table provided in the January 19, 2011 submittal

Response The following Table is an update to the table provided in the January 19, 2011 submittal. This table will be incorporated as Table 2-4 into EPRI Report 1021467

Proposed New Table 2-4 of EPRI Report 1021467

General statement: "Per **§ 50.71 Maintenance of records, making of reports,** the following requirements are used to update the plant-specific PRA:

"(h)(1) No later than the scheduled date for initial loading of fuel, each holder of a combined license under subpart C of 10 CFR part 52 shall develop a level 1 and a level 2 probabilistic risk assessment (PRA). The PRA must cover those initiating events and modes for which NRC-endorsed consensus standards on PRA exist one year prior to the scheduled date for initial loading of fuel.

(2) Each holder of a combined license shall maintain and upgrade the PRA required by paragraph (h)(1) of this section. The upgraded PRA must cover initiating events and modes of operation contained in NRC-endorsed consensus standards on PRA in effect one year prior to each required upgrade. The PRA must be upgraded every four years until the permanent cessation of operations under § 52.110(a) of this chapter."

In addition, the RI-ISI is a living program. Thus, given the above "upgrade" interval for the PRA, the RI ISI program for the second inspection period and beyond shall, as appropriate, meet the noted SRs. Inspections added or deleted as a result of any update will be incorporated consistent with the RI-ISI process.

Sec ID 2008 (2009)	PRA Std / RG 1.200 Assessment	Action to be taken	Basis for why difference will not be significant for RI-PSI/ISI Applications
IE-A3 (IE-A3)	Plant-specific experience may not be available Can be met at 1st Period	Initially use generic experience. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 1
IE-A3a (IE-A4)	CCI/II can be met partially as some components may be unique	Initially use generic analyses and update "with generic analyses of similar plants" as it becomes available. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 2
IE-C1b (IE-C3)	Procedures may not be available Can be met at Fuel Load	Initially analysis can be done using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 3
IE-C9 (IE-C11)	Procedures may not be available Can be met at Fuel Load	Initially analysis can be done using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 3

Sec ID 2008 (2009)	PRA Std / RG 1.200 Assessment	Action to be taken	Basis for why difference will not be significant for RI-PSI/ISI Applications
IE-C12 (IE-C14)	Procedures may not be available Can be met at Fuel Load	Initially analysis can be done using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 3
AS-A5 (AS-5)	Procedures may not be available Can be met at Fuel Load	Initially analysis can be done using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 3
AS-B5a (AS-B6)	Procedures may not be available Can be met at Fuel Load	Initially analysis can be done using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 3
SC-A6	Procedures may not be available Can be met at Fuel Load	Initially analysis can be done using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 3
SY-A2 (SY-A2)	"As-built and as-operated information" and Procedures may not be available Can be met at Fuel Load	Initially analysis can be done using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Notes 3 and 4
SY-A3 (SY-A3)	Procedures may not be available Can be met at Fuel Load	Initially analysis can be done using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 3

Sec ID 2008 (2009)	PRA Std / RG 1.200 Assessment	Action to be taken	Basis for why difference will not be significant for RI-PSI/ISI Applications
SY-A4 (SY-A4)	Plant staff / operating experience may not be available Can be mostly met at Fuel Load and completely met at 1st Period	Initially analysis can be done using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 4
SY-A5 (SY-A5)	Procedures may not be available Can be met at Fuel Load	Initially analysis can be done using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 3
SY-A7 (SY-A7)	Detailed design information may not be available Can be met at Fuel Load	Given Part 52 plants will meet SRP3.6.1 and 3.6.2 this SR should not be an issue. Initially analysis can be done using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 4
SY-A18 (SY-A19)	Operating experience may not be available Can be met at 1st Period	Initially use generic experience. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 1
SY-A18a (SY-A20)	Operating experience and Procedures may not be available Can be met at 1st Period	Initially use generic experience. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 1
HR-A1 (HR-A1)	Operating experience and procedures may not be available Can be met at 1st Period	Initially use generic data/analysis using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Notes 1 and 3

Sec ID 2008 (2009)	PRA Std / RG 1.200 Assessment	Action to be taken	Basis for why difference will not be significant for RI-PSI/ISI Applications
HR-A2 (HR-A2)	Operating experience and procedures may not be available Can be met at 1st Period	Initially use generic data/analysis using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Notes 1 and 3
HR-A3 (HR-A3)	Operating experience and procedures may not be available Can be met at 1st Period	Initially use generic data/analysis using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Notes 1 and 3
HR-C3 (HR-C3)	Operating experience and procedures may not be available Can be met at 1st Period	Initially use generic data/analysis using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Notes 1 and 3
HR-D4 (HR-D4)	Procedures may not be available Note: SR is only relevant if applicable Can be met at Fuel Load	Initially analysis can be done using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 3
HR-E1 (HR-E1)	Procedures may not be available Can be met at Fuel Load	Initially analysis can be done using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 3
HR-E2 (HR-E2)	Procedures may not be available Can be met at Fuel Load	Initially, analysis can be done using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 3

Sec ID 2008 (2009)	PRA Std / RG 1.200 Assessment	Action to be taken	Basis for why difference will not be significant for RI-PSI/ISI Applications
HR-E3 (HE-E3)	Procedures may not be available Can be met at Fuel Load	Initially analysis can be done using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 3
HR-F2 (HR-F2)	Procedures may not be available Can be met at Fuel Load	Initially analysis can be done using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 3
HR-G6 (HR-G6)	Procedures and operating experience may not be available Can be met at 1st Period	Initially analysis can be done using assumptions about the "as anticipated" to be operated plant and generic experience. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Notes 1 and 3
HR-G7 (HR-G7)	Procedures may not be available Can be met at Fuel Load	Initially analysis can be done using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 3
HR-H2 (HR-H2)	Procedures may not be available Can be met at Fuel Load	Initially analysis can be done using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 3
DA-B2 (DA-B2)	Procedures may not be available Can be met at Fuel Load	Initially analysis can be done using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 3

Sec ID 2008 (2009)	PRA Std / RG 1.200 Assessment	Action to be taken	Basis for why difference will not be significant for RI-PSI/ISI Applications
DA-C2 (DA-C2)	Plant-specific data may not be available Can be met at 1st Period	Initially use generic experience. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 1
DA-C3 (DA-C3)	Plant-specific data may not be available Can be met at 1st Period	Initially use generic experience. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 1
DA-C4 (DA-C4)	Plant-specific data may not be available Can be met at 1st Period	Initially use generic experience. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 1
DA-C5 (DA-C5)	Plant-specific data may not be available Can be met at 1st Period	Initially use generic experience. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 1
DA-C6 (DA-C6)	Plant-specific data may not be available Can be met at 1st Period	Initially use generic experience. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 1
DA-C9 (DA-C9)	Plant-specific data may not be available Can be met at 1st Period	Initially use generic experience. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 1
DA-C10 (DA-C10)	Plant-specific data may not be available Can be met at 1st Period	Initially use generic experience. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 1
DA-C11 (DA-C11)	Plant-specific data may not be available Can be met at 1st Period	Initially use generic experience. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 1

Sec ID 2008 (2009)	PRA Std / RG 1.200 Assessment	Action to be taken	Basis for why difference will not be significant for RI-PSI/ISI Applications
DA-C13 (DA-C14)	Plant-specific data may not be available Can be met at 1st Period	Initially use generic experience. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 1
DA-C14 (DA-C15)	Plant-specific data may not be available Can be met at 1st Period	Initially use generic experience. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 1
IF-A3 (IFPP-A4)	As-built and as-operated sources may not be available As-built can be met at Fuel Load As-operated can be met at 1st Period	Given Part 52 plants will meet SRP 3.6.1 and 3.6.2 this SR should not be an issue. Initially analysis can be done using assumptions about the "as anticipated" to be operated plant and generic experience. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 4
IF-A4 (IFPP-A5)	Walkdowns may not be possible Can be met at Fuel Load	Given Part 52 plants will meet SRP 3.6.1 and 3.6.2 this SR should not be an issue. Initially analysis can be done using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 4
IF-B3a (IFSO-A6)	Walkdowns may not be possible Can be met at Fuel Load	Given Part 52 plants will meet SRP 3.6.1 and 3.6.2 this SR should not be an issue. Initially analysis can be done using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 4
IF-C6 (IFSN-A14)	Procedures may not be available Can be met at Fuel Load	Initially analysis can be done using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 3

Sec ID 2008 (2009)	PRA Std / RG 1.200 Assessment	Action to be taken	Basis for why difference will not be significant for RI-PSI/ISI Applications
IF-C9 (IFSN-A17)	Walkdowns may not be possible Can be met at Fuel Load	Initially analysis can be done using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 4
IF-D5a (IFEV-A6)	Noted information may not be fully available Most can be met at Fuel Load; Operating data can be met at 1st Period	Initially use generic experience. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 4
IF-E5a (IFQU-A6)	Procedures may not be available Can be met at Fuel Load	Initially analysis can be done using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 3
IF-E8 (IFQU-A11)	Walkdown may not be possible Can be met at Fuel Load	Given Part 52 plants will meet SRP 3.6.1 and 3.6.2 this SR should not be an issue. Initially analysis can be done using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 4
QU-D1b (QU-D2)	Procedures and operating experience may not be available Can be met at 1st Period	Initially analysis can be done using assumptions about the "as anticipated" to be operated plant and generic experience. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Notes 1 and 3
LE-C6 (LE-C7)	Procedures may not be available Can be met at Fuel Load	Initially analysis can be done using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 3

Sec ID 2008 (2009)	PRA Std / RG 1.200 Assessment	Action to be taken	Basis for why difference will not be significant for RI-PSI/ISI Applications
LE-D5 (LE-D6)	Procedures may not be available BWR – Not applicable PWR – Can be met at Fuel Load	BWR – Not applicable and for PWRs: Initially analysis can be done using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 3
LE-E1 (LE-E1)	Procedures may not be available Can be met at Fuel Load	Initially analysis can be done using assumptions about the "as anticipated" to be operated plant. This shall be incorporated into the PRA model consistent with the requirements contained in 10CFR50.71h and consistent with the RI-ISI living program requirement.	See Note 3

Notes:

1) Use of plant-specific versus generic experience/data typically has localized effects on the plant PRA results. As the PRA results are only one input into the development of the program, any impact caused by the initial use of generic experience/data is further minimized. Because of how the EPRI methodologies have been built (e.g. absolute ranking, large thresholds for binning consequence ranking with the EPRI traditional methodology and conservative identification of high safety significant (HSS) piping for the EPRI streamlined method (e.g. all Class 1, all large bore BER, small CDF/LERF criteria for paragraph 2(a)(5))) only large changes, in a large amount of data, would be expected to have an impact on the results and therefore any significant changes to the inspection program are not expected.

Further, the RI-ISI/PSI methodologies have a living program component (e.g. subparagraphs 7(a), (b) and (e) of Code Case N716, EPRI Streamlined methodology, and subparagraphs 7.1(a), (b) and (e) of Appendix R, EPRI traditional methodology), so that new information (e.g. plant-specific data) is incorporated into the program on a periodic basis. This new information may increase or decrease the inspection population throughout plant lifetime. From a practical perspective, the inspections themselves are allocated over a ten year interval. As an example, if the impact of incorporating plant-specific experience/data into the program at the end of the first inspection period increased the inspection population from 99 inspections to 102 inspection, there would still be two inspection periods (~ 6 to 7 years) available to incorporate this impact into the program prior to closing out the inspection interval.

2) Generic analyses of similar plants, in particular experience with similar plant components, can be conducted throughout the PRA model development process, to assure that the model accounts for industry experience. That is, many of the components to be used in the New Build fleet are identical to, or similar to, components used in the operating fleet, including plants located outside the USA. However, for the New Build fleet there may be isolated components that are unique to that particular design or plant site. When these components are in use at other sites (e.g. other New Build sites) the comparison can be done to account for industry experience. In the isolated cases when the component(s) is plant unique, plant-specific operating experience will serve as industry operating experience until additional units with the same type of component(s) reach the operational stage.

3) Using assumptions about the "as anticipated" to be operated plant versus plant-specific procedures/systems information would only have an impact if the plant-specific procedures/systems information were radically different than that assumed in the PRA. And it should be noted that the availability of plant-specific procedures/systems information increases as the plant transitions from the DC stage through operation. That is, important procedures and training, and systems information, will be in place prior to fuel load. Other than normal plant practices of reflecting lessons learned, these procedures/systems information are not expected to change radically as the plant transitions to full operation.

As the PRA results are only one input into the development of the program, any impact caused by the initial use of generic procedures is further minimized. Because of how the EPRI methodologies have been built (e.g. absolute ranking, large thresholds for binning consequence ranking with the EPRI traditional methodology and conservative identification of high safety significant (HSS) piping for the EPRI streamlined method (e.g. all Class 1, all large bore BER, small CDF/LERF criteria for paragraph 2(a)(5))) only substantial changes to multiple procedures would be expected to have an impact on the results and therefore any significant changes to the inspection program are not expected. And, as stated above, all important procedures are expected to be in place prior to fuel load.

Further, the RI-PIS/PSI methodologies have a living program component (e.g. subparagraphs 7(a), (b) and (e) of Code Case N716, EPRI Streamlined methodology, and subparagraphs 7.1(a), (b) and (e) of Appendix R, EPRI traditional methodology), so that new information (e.g. revised or new procedures) is incorporated into the program on a periodic basis. This new information may increase or decrease the inspection population throughout plant lifetime. From a practical perspective, the inspections themselves are allocated over a ten year interval. As an example, if the impact of incorporating revised or new procedures into the program at the end of the first inspection period increased the inspection population from 99 inspections to 102 inspection, there would still be two inspection periods (~ 6 to 7 years) available to incorporate this impact into the program prior to closing out the inspection interval.

4) Using generic data and assumptions about the "as anticipated" to be operated plant versus having as-built / as operated data would only have an impact on the inspection program, if the as built / as operated plant was radically different than that assumed in the PRA. The ITAAC closure process assures the "as designed" plant properly transitions to the "as built / as operated" plant in a documented and orderly manner.

As the PRA results are only one input into the development of the program, any impact caused by changes in the as built / as operated plant versus the as designed plant is further minimized. Because of how the EPRI methodologies have been built (e.g. absolute ranking, large thresholds for binning consequence ranking with the EPRI traditional methodology and conservative identification of high safety significant (HSS) piping for the EPRI streamlined method (e.g. all Class 1, all large bore BER, small CDF/LERF criteria for paragraph 2(a)(5))) only substantial plant changes would be expected to have an impact on the results and therefore any significant changes to the inspection program are not expected. And as stated above, the ITAAC process provides for an orderly transition from the as designed plant to the as built / as operated plant.

Further, the RI-PIS/PSI methodologies have a living program component (e.g. subparagraphs 7(a), (b) and (e) of Code Case N716, EPRI Streamlined methodology, and subparagraphs 7.1(a), (b) and (e) of Appendix R, EPRI traditional methodology), so that new information (e.g. revised or new procedures) is incorporated into the program on a periodic basis. This new information may increase or decrease the inspection population throughout plant lifetime. From a practical perspective, the inspections themselves are allocated over a ten year interval. As an example, if the impact of incorporating as built / as operated information into the program increased the inspection population from 99 inspections to 102 inspection, there would still be significant time available to incorporate this impact into the program prior to closing out the inspection interval.